



AIRBORNE HAZARDS CONCERNS: INFORMATION FOR VETERANS

Many Veterans are concerned about exposure to airborne hazards after deployment to Iraq and Afghanistan.

Airborne hazards include particulate matter and gaseous air pollutants that may originate from the following sources:

- Burning of human and non-human solid wastes
- Smoke from structural fires and explosions
- Smoke from burning oil wells
- Dust and sand particles
- Industrial and ambient air pollution
- Aircraft and automobile engine exhaust

WHAT IS KNOWN ABOUT AIRBORNE HAZARDS EXPOSURES?

The health effects of air pollution have been studied for many years throughout the world. Major advances have been made to improve air quality in the US and many other parts of the world, but some regions still suffer from poor air quality. Air pollution levels in Iraq and Afghanistan are very high, often above the levels determined as safe in military and occupational guidelines, but a clear relationship between respiratory symptoms and/or disease remains to be established. A variety of research findings include:

- **Relationship with Deployment**
 - › Respiratory symptoms post-deployment are common
 - 7 of 8 studies show a relationship between deployment and respiratory symptoms
 - › New-onset asthma post-deployment findings are mixed
 - 4 studies show a relationship between asthma and deployment
 - 5 studies show no relationship between asthma and deployment
 - 1 study from registry reported a relationship, but self-reported asthma
 - › Chronic Obstructive Pulmonary Disease (COPD) does not appear to be related to deployment
 - 2 studies show a relationship between COPD and deployment
 - 5 studies found no relationship

- **Veterans' Health Administration (VHA) Health Visits**
 - › From 2004 – 2007, a single VA medical center found an increase in asthma diagnoses that was greater in deployers than non-deployers
 - › From 2002 – 2011, there was an increase in the occurrence of asthma and COPD across the VHA after accounting for differences in demographics, smoking status, and traumatic brain injury
 - › From 2001 – 2010, over 25,000 Iraq/Afghanistan Veterans sought care at a VA within one year post-deployment and had greater than two encounters for a respiratory diagnosis
- **Spirometry** (a test that measures lung function) is largely within normal limits
 - › 75% normal in Veterans
 - › 64% normal in active duty personnel
- Deployment to Iraq or Afghanistan may increase risk for airway disease (a group of conditions that include reversible airway narrowing due to an external stimulation such as: asthma, chronic obstructive pulmonary disease, and viral upper respiratory infections).
- High rates of respiratory illness (up to 70%) have been reported during deployment while increased respiratory system medical encounters have been reported after deployment.
- No significant association was found between particulate matter and cardiorespiratory outcomes (the ability of the heart and lungs to work together to supply oxygen/nutrients to the body).
- In a large study, researchers observed zero increase in risk for respiratory problems among deployed military personnel within 3 or 5 miles of burn pits. On the other hand, self-reported burn pit exposure was linked to a higher rate of cardiorespiratory outcomes among participants of the Airborne Hazards and Open Burn Pit Registry. Deployment time within 2 miles of a documented burn pit was linked to self-reported incidence of emphysema, chronic bronchitis, or chronic obstructive pulmonary disease.



- Self-reported blast exposure as indicated on the VA Airborne Hazards and Open Burn Pit Registry questionnaire is associated with current symptoms of dyspnea (shortness of breath) and/or decreased exercise tolerance.
- Constrictive bronchiolitis (where small airway branches of the lungs are compressed or narrowed by scar tissue and/or swelling) was found on lung biopsies in a group of individuals who were evaluated for decreased exercise performance.
- An increase in post-deployment respiratory symptoms, total deployment length, and total number of deployments were not linked with respiratory symptoms in one current research study. In contrast, researchers from the WRIISC recently reported that longer deployment lengths are linked with greater airflow limitation in deployed Iraq and Afghanistan Veterans.

Research studies have demonstrated that it is complex to evaluate Veterans with airborne hazard exposure. However, knowledge about the relationship between deployment and respiratory health continues to develop in the VA community, which includes the WRIISC.

WHAT IS THE VA DOING ABOUT AIRBORNE HAZARD CONCERNS?

Based on the findings of a report by the Institute of Medicine, Veterans Affairs (VA) implemented the Airborne Hazards and Open Burn Pit Registry required by Public Law 112-260.

- Veterans can participate in the Registry whether or not they are enrolled in the VA and complete a web-based self-assessment health questionnaire:
<https://veteran.mobilehealth.va.gov/AHBurnPitRegistry/#page/home>
- Eligible Veterans include those who were:
 - › Deployed to Southwest Asia after August 1, 1990
 - › Deployed to Djibouti, Africa or Afghanistan after September 11, 2001
- In order to access the web-based self-assessment questionnaire, Veterans must have a DS Logon. If Veterans need a DS Logon they may visit the following link to sign up for one: <https://www.dmdc.osd.mil/appj/dsaccess>
- The questionnaire should take approximately 30 to 40 minutes to complete.
- The questionnaire is available from mobile devices such as smartphones or tablets and laptop or personal computers.
- A Veteran should print and keep a copy of the registry self-assessment questionnaire to bring to future medical appointments (recommended).

The registry will keep Veterans informed about scientific studies including long term studies on airborne hazard as well as emerging treatments on airborne hazard related concerns. It will also help VA to monitor the health conditions affecting Veterans as a result of airborne hazards exposure. The data collected will be used to improve programs at the VA to help Veterans with deployment exposure concerns. VA continues to work to improve the registry questionnaire based on recommendations from a recent report by the National Academies of Sciences, Engineering, and Medicine.

★ Potential Sources of Potential Airborne Hazards Exposure

The VA provides detailed reports describing information collected in the Airborne Hazards and Open Burn Pit Registry. Key findings from information entered into the registry from April 25, 2014 to September 30, 2014 by Veterans and active duty service members include:

- Participants completed more than 19,000 surveys in the first 6 months of the registry.
- The average age of registry participants is 39 years.
- Most registry participants said they were near a burn pit at some point.
- In addition to burn pits, registry participants were exposed to other hazards on the job or in the environment, like weapon blasts, pesticides, and dust storms.
- Find the full report at <http://www.publichealth.va.gov/exposures/burnpits/registry.asp>

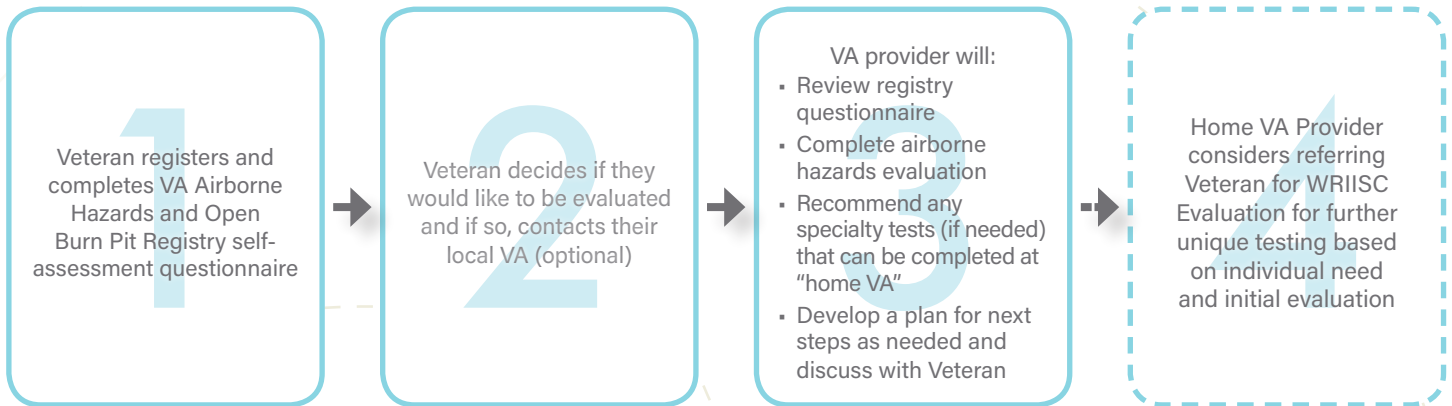


IN-PERSON EVALUATION

After filling out the registry self-assessment questionnaire, Veterans with continuing symptoms and concerns can contact their local VA facility to request an in-person medical evaluation. If the Veteran is already enrolled in the VA, an appointment should be scheduled with the primary care provider or the patient aligned care team (PACT). If a Veteran is not enrolled in the VA, the Veteran can request a registry evaluation by the local Environmental Health Clinician (see <http://www.publichealth.va.gov/exposures/coordinators.asp> for a listing of environmental health clinicians by facility).

During the visit with a VA provider concerns and symptoms will be evaluated in a comprehensive manner. Further suggested testing, including specialty evaluations, will be based on the individual Veteran's health concerns and symptoms, and may be ordered by the provider.

PROCESS FOR VETERANS WITH AIRBORNE HAZARD EXPOSURE



AIRBORNE HAZARDS EXPERTISE AT THE WRIISC

After local evaluation is complete, including specialty testing, a referral from a provider may be made to the War Related Illness and Injury Study Center (WRIISC). (See the steps of the process above.) We evaluate Veterans with the most complex, difficult-to-diagnose or medically unexplained health concerns related to airborne hazards concerns or deployment related exposures. Depending on the individual needs of a Veteran and previous findings, the WRIISC clinical evaluations for airborne hazards concerns may include state-of-the-art assessments of lung function and exercise capacity. These tests can help us assess the full range of Veterans' pulmonary function and evaluate exercise limitation and respiratory symptoms. The WRIISC clinical evaluation uses an interdisciplinary approach with an emphasis on Veteran-provider communication. WRIISC recommendations focus on improving Veterans quality of life and symptom management. Any recommendations we make would be shared with a Veteran and their provider. More information about our programs and services is listed on our website: <http://www.WarRelatedIllness.va.gov>.

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